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CARTER, DELUCA, FARRELL & SCHMIDT, LLP
445 BROAD HOLLOW ROAD
SUITE 225
MELVILLE, NY 11747

EXAMINER	
OREILLY, PATRICK F	
ART UNIT	**PAPER NUMBER**
3749	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/553,218	SELLWOOD, IAN	
	Examiner	Art Unit	
	Patrick F. O'Reilly III	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) and 35 U.S.C. 120. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

Information Disclosure Statement

2. The listing of references in the International Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office, (e.g. the PCT International Preliminary Report on Patentability) (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the International Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the

requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of **50** to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The **abstract should describe the disclosure sufficiently** to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it does not sufficiently describe the claimed invention. For example, the applicant has a group of claims directed to a method of manufacturing a seamless ventilation duct, but no such method is mentioned in the abstract. Correction is required. See MPEP § 608.01(b).

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Seamless Ventilation Duct and a Method of Manufacturing the Same".

6. The disclosure is objected to because of the following informalities:

On page 1, line 8 of the specification, the phrase, "...ducting of tubing..." should be corrected to read: "...ducting or tubing...".

On page 4, lines 6-7 of the specification, the examiner believes that phrase, "...between major wall 2 and minor wall 4..." should be corrected to read: "...between major wall 2 and minor wall 5...".

Appropriate correction is required.

Claim Notes

7. With respect to all claims utilizing the phrase "hinge means" in this application, the applicant has not been regarded as having invoked 35 U.S.C. 112, sixth paragraph, because, in each case, the phrase "means for" has not been used and sufficient structure for achieving the specified function appears to have been specified. Consequently, the first and third prongs of the 3-prong analysis for determining the invocation of 35 U.S.C. 112, sixth paragraph, have not been satisfied. See MPEP § 2181(I).

Claim Objections

8. Claims 37 and 38 are objected to because of the following informality: the recited dependence on claim 34 is improper. These two dependent claims are directed to an apparatus, namely a seamless ventilation duct, whereas claim 34 is a dependent method claim. For the purpose of an examination on the merits, claims 37 and 38 have been treated as to depend on claim 35, rather than claim 34. Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. **Claims 19-24, 26-30, 35-36 and 38** are rejected under 35 U.S.C. 102(b) as being anticipated by Mulligan et al. (US 3,343,567). The specification and the drawings in the Mulligan et al. reference disclose all of the elements recited in **claims 19-24, 26-30, 35-36 and 38** of this application.

11. Specifically, in regard to claim 19, Mulligan et al. discloses all of the claimed elements, including: a plurality of elongate panels (side walls 2) and integrally formed hinge means (corners of reduced thickness, as detailed in Figs. 4-5), each panel (side wall 2) being joined to an adjacent panel (side wall 2) by said integrally formed hinge means (corners of reduced thickness, as detailed in Figs. 4-5) to enable relative movement between the panels so that the duct is selectively collapsible for transportation and storage (the duct may be collapsed to a substantially flat shape, as shown in Fig. 3, .packaged, stored, and shipped to the ultimate user). Refer to Mulligan et al., Figures 1-5; column 1, lines 44-49; and column 2, lines 21-47. Therefore, because all of the elements in claim 19 of this application are disclosed by the Mulligan et al. reference, this claim is rejected in accordance with 35 U.S.C. 102(b).

12. In regard to claim 20, which depends upon claim 19, Mulligan et al. further discloses that the hinge means (corners of reduced thickness, as detailed in Figs. 4-5) comprises an elongate channel in the duct between each panel (side wall 2) so that the duct folds in the region of the channel to enable relative movement between the panels (side walls 2). See Mulligan et al., Figures 1-5; column 1, lines 44-49; and column 2, lines 21-47. Thus, Mulligan et al. meets the language of this claim.

13. In regard to claim 21, which depends upon claim 19, Mulligan et al. further discloses that each panel (side wall 2) is disposed substantially at right angles to two adjacent panels (side walls 2) when the duct is erected. Refer to Mulligan et al., Figure 1 and column 1, lines 56-57. Consequently, the Mulligan et al. reference also meets the language set forth in claim 21.

14. In regard to claim 22, which depends upon claim 21, Mulligan et al. further discloses that each panel (side wall 2) is at least one of rigid and semi-rigid and forms one side-wall of the duct. See Mulligan et al., Figures 1-2 and column 2, lines 21-47. Therefore, Mulligan et al. also meets the language set forth in this claim.

15. In regard to claim 23, which depends upon claim 22, Mulligan et al. further discloses that each side-wall (2) lies substantially in contact with another side-wall (2) when the duct is collapsed. Refer to Mulligan et al., Figure 3 and column 2, lines 21-47. Thus, Mulligan et al. meets the language set forth in claim 23.

16. In regard to claim 24, which depends upon claim 22, Mulligan et al. further discloses that the side-walls (2) define a parallelogram profile in cross-section. See Mulligan et al., Figures 1-2 and column 1, lines 56-59. Consequently, the Mulligan et al. reference also meets the language set forth in this claim.

17. In regard to claim 26, which depends upon claim 19, Mulligan et al. further discloses that the duct is made from a plastics material (any plastic composition having a percent elongation of at least 20). Refer to Mulligan et al., column 2, lines 7-20. Therefore, Mulligan et al. also meets the language set forth in claim 26.

18. In regard to claim 27, which depends upon claim 26, Mulligan et al. further discloses that the duct is made from one of a thermoplastic and a thermoplastic elastomer (polyethylene or

polypropylene, two specific types of thermoplastic). See Mulligan et al., column 2, lines 11-16. Thus, Mulligan et al. meets the language of this claim.

19. In regard to claim 28, which depends upon claim 26, Mulligan et al. further discloses that the duct is made from polypropylene. Refer to Mulligan et al., column 2, lines 11-16. Consequently, the Mulligan et al. reference also meets the language set forth in claim 28.

20. In regard to claim 29, which depends upon claim 19, Mulligan et al. further discloses that the seamless ventilation duct is formed by extrusion (an extrusion die is used which produces corners of reduced thickness). Refer to Mulligan et al., column 1, lines 44-49 and column 2, lines 4-7. Therefore, Mulligan et al. also meets the language set forth in this claim.

21. In regard to claim 30, which depends upon claim 22, Mulligan et al. further discloses that the side-walls (2) define a multi-sided profile in cross-section. Refer to Mulligan et al., Figures 1-2; column 1, lines 44-49; and column 2, lines 21-25. Thus, Mulligan et al. meets the language set forth in claim 30.

22. In regard to claim 35, which is an independent claim, Mulligan et al. discloses all of the claimed elements, including: a plurality of elongate panels (side walls 2); and hinge means (corners of reduced thickness, as detailed in Figs. 4-5) integrally formed between adjacent panels (side walls 2) to enable relative movement of adjacent panels to one another, whereby the duct is collapsible for transportation and storage (the duct may be collapsed to a substantially flat shape, as shown in Fig. 3, .packaged, stored, and shipped to the ultimate user). See Mulligan et al., Figures 1-5; column 1, lines 44-49; and column 2, lines 21-47. Therefore, because all of the elements in claim 35 of this application are disclosed by the Mulligan et al. reference, this claim is rejected in accordance with 35 U.S.C. 102(b).

23. In regard to claim 36, which depends upon claim 35, Mulligan et al. further discloses that the hinge means (corners of reduced thickness, as detailed in Figs. 4-5) is defined by an elongate channel formed between adjacent panels (side walls 2), wherein the duct is foldable along the channel to enable relative movement between adjacent panels (side walls 2). Refer to Mulligan et al., Figures 1-5; column 1, lines 44-49; and column 2, lines 21-47. Thus, Mulligan et al. meets the language of this claim.

24. In regard to claim 38, which is presumed to depend on claim 35, Mulligan et al. further discloses that the duct is made from polypropylene. See Mulligan et al., column 2, lines 11-16; see also claim objections above. Consequently, the Mulligan et al. reference also meets the language set forth in claim 38.

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

26. **Claims 25 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mulligan et al. (US 3,343,567) in view of Shira (US 3,786,171). These two references, when considered together, teach all of the elements recited in **claims 25 and 37** of this application.

27. In particular, claims 25 and 37 of this application are obvious when Mulligan et al. is viewed in light of Shira. As described above, Mulligan et al. discloses all the limitations of claims 19 and 35, the claims upon which these two claims respectively depend. However, claims

25 and 37 of this application further disclose that the hinge means are formed from a dissimilar material to the panels (side walls). Mulligan et al. does not contain this additional limitation. Shira, although, teaches a conduit with an integral hinge (flexible bead member 14) which connects back member (10) to front cover (12), wherein the hinge is extruded from a highly flexible plastic, while the back member (10) and the front cover (12) are extruded from a relatively rigid plastic, in order to enable the front cover (12) to pivot about the longitudinal axis of the hinge (flexible bead member 14) such that rotational movement may be achieved without requiring multiple, discrete parts. Refer to Shira, Figures 1-2; column 1, lines 10-16 and 55-68; column 2, lines 1-23; and column 3, lines 13-17. Therefore, when Mulligan et al. is viewed in light of Shira, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the collapsible duct (tubing) of Mulligan et al. by forming the integral hinge means (corners or reduced thickness) from a different, more flexible plastic than the panels (side walls), as taught by Shira, in order to facilitate the pivotable movement of the side walls about the longitudinal axis of the side walls by using a highly flexible plastic that will not crack when a strain is applied thereto, while permitting the side walls to be formed from a more rigid plastic that will retain a fixed shape without requiring the need for multiple, discrete components thereby minimizing installation cost and labor. See Shira, column 1, lines 10-16 and 55-68; column 2, lines 1-23; and column 3, lines 13-17.

28. **Claims 31 and 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mulligan et al. (US 3,343,567) in view of Raczkowski (US 5,246,752). These two references, when considered together, teach all of the elements recited in **claims 31 and 33** of this application.

29. In particular, claim 31 of this application is obvious when Mulligan et al. is viewed in light of Raczkowski. Mulligan et al. discloses the invention substantially as claimed, including: a plurality of elongate panels (side walls 2) and integrally formed hinge means (corners of reduced thickness, as detailed in Figs. 4-5), with each panel (side wall 2) being joined to an adjacent panel (side wall 2) by said integrally formed hinge means (corners of reduced thickness, as detailed in Figs. 4-5) to enable relative movement between the panels, and a method of manufacturing the duct having these features comprising the steps of: extruding the duct (an extrusion die is used which produces corners of reduced thickness) and folding the duct about the hinge means (corners of reduced thickness) to collapse the duct for at least one of transportation and storage (the duct may be collapsed to a substantially flat shape, as shown in Fig. 3, .packaged, stored, and shipped to the ultimate user). Refer to Mulligan et al., Figures 1-5; column 1, lines 44-49; and column 2, lines 4-7 and 21-47. However, claim 31 of this application further discloses that the method of manufacturing the duct also includes a step of allowing the duct to cool. Mulligan et al. does not contain this additional step. Raczkowski, although, teaches a method of extruding thermoplastic tubing which includes a step of allowing the tubing to be cooled and annealed for the purpose of providing stress relief, enhancing its dimensional and optical characteristics, and eliminating variations in wall thickness. See Raczkowski, Figure 2; column 1, lines 12-15; and column 2, lines 12-21 and 38-41. Therefore, when Mulligan et al. is viewed in light of Raczkowski, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of extruding the collapsible duct (tubing) in Mulligan et al. by allowing the extruded tubing to be cooled and annealed, as taught by Raczkowski, in order to provide stress relief, to enhance its dimensional and optical

characteristics, and to eliminate variations in wall thickness. Refer to Raczkowski, column 1, lines 12-15; and column 2, lines 12-21 and 38-41.

30. In regard to claim 33, which depends upon claim 31, Mulligan et al. further discloses that the duct is extruded in an erect condition (the rectangular shape is extruded, and then subsequently collapsed prior to being packaged, stored and shipped). See Mulligan et al., column 2, lines 41-47 and 64-65. Therefore, Mulligan et al. in view of Raczkowski also meets the language of this claim.

31. **Claim 32** is rejected under 35 U.S.C. 103(a) as being unpatentable over Mulligan et al. (US 3,343,567) in view of Raczkowski (US 5,246,752), and further in view of Ausnit (US 4,191,230). These three references, when considered together, teach all of the elements recited in **claim 32** of this application.

32. In particular, claim 32 of this application is obvious when Mulligan et al. is viewed in light of Raczkowski, and further viewed in light of Ausnit. As described above, Mulligan et al. in view of Raczkowski, teaches all the limitations of claim 31, the claim upon which this claim depends. However, claim 32 of this application further discloses that the duct is extruded in a collapsed condition. Mulligan et al., as modified by Raczkowski, does not contain this additional limitation. Ausnit, although, teaches an extrusion process for thermoplastic materials that employs a thin, wide, and substantially straight die opening, as an alternative to a tubular die opening, which is capable of producing a thin sheet extrusion for the purpose of providing a more convenient and feasible means by which to manufacture an integrally extruded construction. Refer to Ausnit, Figure 10 and column 6, lines 19-44. Therefore, when Mulligan et al. is viewed in light of Raczkowski, and further viewed in light of Ausnit, it would have been

obvious to one having ordinary skill in the art at the time the invention was made to modify the process of extruding the collapsible duct (tubing) in Mulligan et al., as modified by Raczkowski, by utilizing a thin, wide and substantially straight die opening capable of producing the duct in a collapsed condition, as taught by Ausnit, in order to provide a more convenient and feasible means by which to manufacture an integrally extruded construction and thereby obviating the need to collapse a larger, tubular shape subsequent to its extrusion. See Ausnit, column 6, lines 19-44.

33. **Claim 34** is rejected under 35 U.S.C. 103(a) as being unpatentable over Mulligan et al. (US 3,343,567) in view of Raczkowski (US 5,246,752), and further in view of Shira (US 3,786,171). These three references, when considered together, teach all of the elements recited in **claim 34** of this application.

34. In particular, claim 34 of this application is obvious when Mulligan et al. is viewed in light of Raczkowski, and further viewed in light of Shira. As described above, Mulligan et al. in view of Raczkowski, teaches all the limitations of claim 31, the claim upon which this claim depends. However, claim 34 of this application further discloses that the hinge means are extruded from a different material than the rest of the duct. Mulligan et al., as modified by Raczkowski, does not contain this additional limitation. Shira, although, teaches a conduit with an integral hinge (flexible bead member 14) which connects back member (10) to front cover (12), wherein the hinge is extruded from a highly flexible plastic, while the back member (10) and the front cover (12) are extruded from a relatively rigid plastic, in order to enable the front cover (12) to pivot about the longitudinal axis of the hinge (flexible bead member 14) such that rotational movement may be achieved without requiring multiple, discrete parts. Refer to Shira,

Figures 1-2; column 1, lines 10-16 and 55-68; column 2, lines 1-23; and column 3, lines 13-17. Therefore, when Mulligan et al. is viewed in light of Raczkowski, and further viewed in light of Shira, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of extruding the collapsible duct (tubing) in Mulligan et al., as modified by Raczkowski, by using a dual extrusion process whereby the integral hinge means (corners or reduced thickness) are formed from a different, more flexible plastic than the panels (side walls), as taught by Shira, in order to facilitate the pivotable movement of the side walls about the longitudinal axis of the side walls by using a highly flexible plastic that will not crack when a strain is applied thereto, while permitting the side walls to be formed from a more rigid plastic that will retain a fixed shape without requiring the need for multiple, discrete components thereby minimizing installation cost and labor. See Shira, column 1, lines 10-16 and 55-68; column 2, lines 1-23; and column 3, lines 13-17.

Conclusion

35. See attached form PTO-892 for additional pertinent prior art, which was not directly relied upon in this action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick F. O'Reilly III whose telephone number is (571)272-3424. The examiner can normally be reached on Monday through Friday, 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Rinehart can be reached on (571) 272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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KENNETH RINEHAR
PRIMARY EXAMINE